



6Gb/s SAS Enterprise 2.5" SSDs

Optimus Extreme™ SAS SSDs

Outstanding performance for a wide variety of write-intensive application workloads.

Features

- 45 DWPD**** (random workload)
- 5 Year Warranty****
- Data Integrity – BER 10¹⁷
- FlashGuard – Enhances Flash Endurance
- DataGuard – Ensures Data Integrity
- EverGuard – Reliable 24x7 operation

Write-Intensive Application Workloads

- High Performance Computing (HPC)
- Oil and Gas
- Life Sciences
- Aerospace
- Engineering
- Media Editing
- Analytics
- Database Logging
- Data Warehousing

OEMs and IT managers no longer have to compromise on performance, endurance and reliability to obtain affordability. Optimus Extreme™ SSDs offer all four in a single package through a combination of unique and innovative IP, and the use of enterprise Multi-Level Cell (eMLC) flash. SanDisk's newest generation of 19nm eMLC SSDs feature a native SAS 6Gb/s interface, outstanding performance metrics, and a comprehensive set of high-end features making them ideal to integrate with existing infrastructure for write-intensive applications with an I/O pattern designed predominately for workloads such as High Performance Computing (HPC), Media Editing, Analytics, Indexing and Database Logging, where performance and high-availability are required.

Available in capacities of 100GB - 800GB*, Optimus Extreme SSDs provide random read/write performance up to 95K/40K IOPS and sequential read/write data transfer rates of up to 550/540 MB/s**. Optimus Extreme SSDs provide dual port support with 1 GB/s Read/800 MB/s Write in active/active operation for sequential read/write performance. Optimus Extreme SSDs provide 45 random DWPD****. Optimus Extreme SSDs have a 5 year warranty****.

Guardian Technology™ Platform

Optimus Extreme SAS SSDs are powered by SanDisk's proprietary Guardian Technology Platform, a comprehensive suite of enterprise features comprised of FlashGuard™, DataGuard™ and EverGuard™ technologies.

FlashGuard Technology combines Aggregated Flash Management, which treats all flash elements as a single system, and Advanced Signal Processing, which dynamically adjusts flash parameters throughout the life of the SSD, to reliably extract significantly more life from commercial-grade MLC flash, making it suitable for write-intensive application workloads.

DataGuard Technology features full data path protection, safeguarding user data from corruption along all data paths in the SSD.

EverGuard Technology protects against loss of user data in the event of unexpected power interruptions using a 3rd generation backup power circuit design and high-reliability discrete capacitors. Optimus Extreme SAS SSDs are designed for I/O intensive, mission-critical, 24/7 applications.

SanDisk®

Optimus Extreme™ 2.5" SAS SSDs

Performance

Interface	SAS 6 Gb/s
Interface Ports	Dual
Sequential Read/Write (MB/s)**	100GB: Up to 550/380 MB/s ¹ per port/ 200GB - 800GB: Up to 550/540 MB/s ¹ / 1 GB/s Read/800 MB/s Write in Active/Active operation
Random Read/Write (IOPS)	Up to 95K/40K ²

Capacity

19nm eMLC User Capacities*	100GB, 200GB, 400GB and 800GB
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Reliability

Sector Sizes	512, 520, 528 byte
Data Reliability (BER)	1 unrecoverable error in 10 ¹⁷ bits read
MTBF***	2.5 Million Hours
Data Fail Recovery	F.R.A.M.E. (Flexible Redundant Array of Memory Elements)
Power Fail Recovery	EverGuard Technology: Backup Power Circuitry
Data Path Protection	DataGuard Technology
Warranty****	The lesser of 5 years or maximum endurance used

Endurance

DWPD (Random Workload)****	45 DWPD
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Power

Vcc	5V, - 5%/+10%
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Active (Typ)	7W
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Environmental

Shock	1000 g half-sine, 0.5 msec, 3 shocks along each axis, X, Y, Z, in each direction
Vibration	2.17 g rms, 7-800 Hz
Operating Temperature	0° C to 70° C (internal)
Storage Temperature	-40° C to 90° C
Humidity	5% to 95%, non-condensing, relative humidity
Altitude	5486.4 m [18,000 ft]

(1) Based on a 128KB transfer rate, using Oakgate SVF exerciser

(2) Based on 4KB transfer rate using Oakgate SVG exerciser

(3) Height applies to the 800GB Optimus Extreme

Optimus Extreme™ 2.5" SAS SSDs - Ordering Information

Part Number	Capacity
SDLKOE9W-100G-5Cxx	100GB
SDLKOD9W-200G-5Cxx	200GB
SDLKOC9W-400G-5Cxx	400GB
SDLLOC9W-800G-5Cxx	800GB

xx - Pack Out Option:

Generic/Sample:	A1
10 Pack:	02
Bulk Pack:	03

Specifications subject to change without notice.

*1 GB = 1,000,000,000 bytes. Actual user capacity less.

**Up to stated speed. Based on internal testing; performance may vary depending upon drive capacity, host device, OS and application.

1 megabyte (MB) = 1 million bytes.

***MTBF - Mean Time Between Failures based on parts stress analysis.

****Warranty/DWPD - The lesser of 5 years from the date of manufacture of the product or the date on which the product's relevant endurance thresholds set forth in the product specifications are reached.

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Contact information

ESS.channelsales@sandisk.com
ESS.OEMsales@sandisk.com
businesspartners@sandisk.com

SanDisk Americas

951 SanDisk Drive
Milpitas, CA 95035-7933, USA
T: 1-866-744-2165

SanDisk Europe, Middle East, Africa

Unit 100, Airside Business Park,
Swords, County Dublin, Ireland
T: 1-866-744-2165

SanDisk Asia Pacific

Suite C,D,E, 23/F, No. 918 Middle
Huahai Rd., Jiu Shi Renaissance Building,
Shanghai, 20031, P.R. China
T: 1-866-744-2165

For more information, please visit:

www.sandisk.com/enterprise

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